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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,624	01/17/2001	Alan L. Everett	29627.0006	5312

7590

07/21/2005

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EXAMINER

KIM, CHRISTOPHER S

ART UNIT

PAPER NUMBER

3752

DATE MAILED: 07/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

TAL

Office Action Summary	Application No.	Applicant(s)	
	09/761,624	EVERETT, ALAN L.	
	Examiner	Art Unit	
	Christopher S. Kim	3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-16 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12 and 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The response filed May 5, 2005 is acknowledged.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 1-7, 9-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saunders (4,131,236).

Saunders discloses a precision dispensing tip comprising: a body 10 having an inlet D and an outlet d; a fluid conducting passage having a first portion 12 and a second portion 13; a housing 21; standoff member 31.

Saunders discloses the ranges of D and d. Saunders also discloses the Relationship of Y with respect to D and d. Saunders teaches a range of Y, D, and d which encompasses applicant's claimed range that D is at least four times d and Y is at least three times the axial length of second portion 13.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided such a dimensional relationship, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claims 5 and 11, Saunders discloses ceramic materials such as tungsten carbide, diamond and artificial jewels such as artificial sapphires. Saunders does not disclose zirconia ceramic. Zirconia ceramic is well known. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used zirconia ceramic to make the nozzle of Saunders to reduce cost by utilizing readily available materials.

4. Claims 1, 2, 6, 9, 12, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nebeker et al. (3,924,805).

Nebeker discloses a precision dispensing tip comprising: a body having an inlet 26 and an outlet 27; a fluid conducting passage 24 having a first portion with an axial length F and a second portion with an axial length of E-F; an inlet diameter H; an outlet diameter G; a housing 30.

Nebeker's inlet diameter H is 0.2 inch and outlet diameter G is 0.06 inch. The first portion axial length F is 0.7 inch. The second portion axial length E-F is 0.2 inch. Nebeker's inlet diameter is 0.04 inch less than four times the outlet diameter. Nebeker discloses, in column 5, lines 60-66, that nozzle passage 26 is shaped according to conventional designs for an efficient conversion of pressure to kinetic energy. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have made the inlet diameter of Nebeker at least 0.24 inch to optimize the conversion efficiency.

Regarding claims 2 and 12, Nebeker does not disclose the outlet diameter being 0.003 inch to about 0.030 inch. Nebeker discloses the outlet diameter G being 0.06

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inch. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have made the outlet diameter of Nebeker between 0.003 inch to about 0.030 inch to optimize percussion droplet size.

5. Claims 3-5, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nebeker et al. (3,924,805) in view of Saunders (4,131,236).

Nebeker discloses the limitations of the claimed invention with the exception of ceramic material. Saunders discloses ceramic materials such as tungsten carbide, diamond and artificial jewels such as artificial sapphires. Additionally, zirconia ceramic is well known. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have made the device of Nebeker from ceramic material, especially zirconiz ceramic material as taught by Saunders for strength and smooth finish.

6. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nebeker et al. (3,924,805) in view of Vickers (4,342,425).

Nebeker discloses the limitations of the claimed invention with the exception of a protective housing including a standoff. Vickers discloses a housing 106 and a standoff 108. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have incorporated the housing and standoff of Vickers to the device of Nebeker to enable positioning of the device.

Response to Arguments

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7. Applicant's arguments with respect to claims 1-7, 9-12 and 14-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (571) 272-4905. The examiner can normally be reached on Monday - Thursday, 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on (571) 272-4919. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-3750.


Christopher S. Kim
Primary Examiner
Art Unit 3752

CK
July 19, 2005